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DEPARTMENT OF HEALTH  
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MINERALS PROGRAM  
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DIVISION OF  
OIL, GAS & MINING

May 7, 1990

Mr. Glen Eurick  
Environmental Affairs Coordinator  
Barrick Mercur Gold Mine  
P.O. Box 838  
Tooele, Utah 84074

RE: Dump Leach No. 3 Closure and Post-Closure  
Monitoring Plans

Dear Mr. Eurick:

As you are aware, the draft ground water quality discharge permit for Dump Leach No. 3 required Conceptual Closure and Post-Closure Monitoring Plans. The purpose of this letter is to provide additional guidance so that you may formulate these plans for submission for approval, in compliance with the permit (Part I H 7 and 9). Our comments follow.

1. **Conceptual Closure Plan** - this plan must include steps to isolate and stabilize the dump leach and thereby prevent ground water contamination after cessation of operations. This plan should include the following actions:
  - a) Neutralization of all cyanide leachates or residuals in the dump to a level that is less than or equal to 0.2 mg/l total cyanide (EPA Health Advisory).
  - b) Removal of all free liquids.
  - c) Stabilization of the dump to a configuration and bearing capacity sufficient to support a final cover.
  - d) Design and construction of a final cover that will:
    - 1) Provide long-term minimization of infiltration.

- 2) Function with a minimum of maintenance.
- 3) Promote surface drainage and minimize erosion or abrasion of the final cover.
- 4) Accommodate settling and subsidence so that the final cover's integrity is maintained.
- 5) Prevent the impoundment of fluids or leachates on the bottom liner of dump leach by:
  - i) Construction a final cover with a hydraulic conductivity that is less than or equal to the bottom liners and/or
  - ii) Provide free drainage from the unit so that liquids that accumulate inside are removed in a timely fashion.
- e) Long-term control of site access to ensure stability and integrity of the closed facility and its cover.

2. **Conceptual Post-Closure Monitoring Plans** - this plan must include steps for monitoring the condition of the dump leach after cessation of operation and closure. This plan must include monitoring of the following:

- a) Condition of the dump leach's final cover or cap for erosion, settlement, animal burrows, cover grasses, or growth of large plants or trees that may jeopardize the structural and/or hydraulic integrity of the cap, and
- b) Conditions of surface drainage ditches or other water courses, including the inlets to the subdrain below the dump leach for erosion or blockage, and
- c) Conditions of site access control, i.e. fences, roads, etc, and
- d) At least annual ground water quality monitoring in compliance with the requirements of Part I E 6(a) and (b) of the permit, or
- e) Demonstration to the satisfaction of the Executive Secretary that the closed unit has no potential to adversely impact ground water quality at any time in the future.

Mr. Glen Eurick  
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If you have any questions or comments, please call Loren Morton at 538-6146. We also encourage you to coordinate these issues with the Division of Oil, Gas & Mining.

Sincerely,

A handwritten signature in cursive script, reading "Larry J. Mize".

Larry J. Mize, Manager  
Ground Water Section  
Bureau of Water Pollution Control

cc: Wayne Hedberg, DOGM  
Terry Vandell, Dames & Moore  
Matt Trujillo, Tooele County Health Dept.

LBM:kc  
Q:BM3CLOSE.LTR